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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,666	07/09/2003	Juliana H. J. Brooks	BKL 113 (c)	9834
26818	7590	02/08/2007		
MARK G. MORTENSON POST OFFICE BOX 310 NORTH EAST, MD 21901-0310			EXAMINER WONG, EDNA	
			ART UNIT	PAPER NUMBER
			1753	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/615,666

Applicant(s)

BROOKS ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 7-21 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

This is in response to the Amendment dated December 18, 2006. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Election/Restrictions

Applicant's election with traverse of Group I, claims **1-4**, in the reply filed on May 18, 2006 is acknowledged.

Claims **5 and 6**, directed to the method of claim 1, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability.

Newly submitted claims **7-21 and 24** are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The "applying" step does not apply at least one conditioning frequency to said at least one conditionable participant to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant, whereby said at least one conditioning frequency comprises at least one frequency selected from the group consisting of direct resonance conditioning frequencies, harmonic resonance conditioning frequencies and non-harmonic heterodyne conditioning resonance frequencies as originally claimed.

Since applicant has received an action on the merits for the originally presented

invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 7-21 and 24 are withdrawn from consideration as being directed to a non-elected invention.

The election becomes fixed when the claims in an application have received an action on their merits by the Office (MPEP § 818.01).

Drawings

The drawings have been objected to because there are two "Fig. 25a".

The objection of the drawings has been withdrawn in view of Applicants' amendment.

The drawings were received on December 18, 2006. These drawings are acceptable.

Specification

I. The abstract of the disclosure has been objected to because the abstract is more than one paragraph long and more than 150 words.

The objection of the abstract of the disclosure has been withdrawn in view of Applicants' amendment.

II. The disclosure has been objected to because of minor informalities.

The objection of the disclosure has been withdrawn in view of Applicants'

amendment.

Claim Rejections - 35 USC § 112

Claims **1-4** have been rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.

The rejection of claims 1-4 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Double Patenting

I. Claims **1-4** have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-26** of copending Application No. **10/203,797** (Brooks et al.).

The rejection of claims 1-4 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 10/203,797 (Brooks et al.) is as applied in the Office Action dated June 15, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that all of the pending claims recite either directly or indirectly "conditioning". This specific language is not disclosed or suggested in copending Application No. 10/203,797.

In response,

Claim 1, line 1, of copending Application No. 10/203,797 recites "A method **for controlling** a reaction system".

Claim 2, line 1, of copending Application No. 10/203,797, recites wherein said reaction system comprises at least one participant".

Claim 1, lines 1-2, of the instant application, recites "A method **for conditioning** at least one conditionable participant to form a conditioned participant in a fuel cell reaction system".

Both of the methods in these claims are exposing at least one participant with direct resonance, harmonic resonance and/or non-harmonic heterodyne resonance. Thus, the method steps are doing the same thing. The purpose of the method recited in their preambles does not methodically add anything to distinguish the methods, and thus, does not make the methods patentably distinct.

II. Claims 1-4 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/507,659 (Brooks et al.).

The rejection of claims 1-4 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/507,659 (Brooks et al.) is as applied in the Office Action dated June 15, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants request that the obvious-type double patenting rejection be held in

abeyance until indication of allowable subject matter herein.

In response, the obvious-type double patenting rejection has been held in abeyance.

III. Claims **1-4** have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-6** of copending Application No. **10/507,660** (Brooks et al.).

The rejection of claims 1-4 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/507,660 (Brooks et al.) is as applied in the Office Action dated June 15, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants request that the obvious-type double patenting rejection be held in abeyance until indication of allowable subject matter herein.

In response, the obvious-type double patenting rejection has been held in abeyance.

IV. Claims **1-4** have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-6** of copending Application No. **10/508,462** (Brooks et al.).

The rejection of claims 1-4 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No.

10/508,462 (Brooks et al.) is as applied in the Office Action dated June 15, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants request that the obvious-type double patenting rejection be held in abeyance until indication of allowable subject matter herein.

In response, the obvious-type double patenting rejection has been held in abeyance.

Claim Rejections - 35 USC § 102

I. Claims 1-4 have been rejected under 35 U.S.C. 102(b) as being anticipated by **Brooks et al.** (US Patent No. 6,033,531).

The rejection of claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Brooks et al. is as applied in the Office Action dated June 15, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that Brooks does not disclose the claimed "conditioning" energies.

In response, Brooks teaches spectral catalyst platinum emissions from a Fisher Scientific Hollow Cathode Platinum Lamp (col. 11, lines 31-34). Does the spectral catalyst platinum emissions from the lamp have or have not any direct resonance conditioning frequencies, harmonic resonance conditioning frequencies and/or non-harmonic heterodyne conditioning resonance frequencies?

If they do, then why are they not conditioning energies?

II. Claims 1-4 have been rejected under 35 U.S.C. 102(e) as being anticipated by **Kawamura et al.** (US Patent No. 6,706,431 B2).

The rejection of claims 1-4 under 35 U.S.C. 102(e) as being anticipated by Kawamura et al. is as applied in the Office Action dated June 15, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that Kawamura does not contain any reference to "conditioning".

In response, there is no requirement that "conditioning" be expressly articulated in the reference. References are evaluated by what they collectively suggest to one versed in the art, rather than by their specific disclosures. *In re Simon* 174 USPQ 114 (CCPA 1972); *In re Richman* 165 USPQ 509, 514 (CCPA 1970).

Kawamura teaches radiating the catalyst with blue light and/or conducting an electric current to the catalyst (col. 4, lines 29-32). Does the blue light and/or conducting electric current have or have not any direct resonance conditioning frequencies, harmonic resonance conditioning frequencies and/or non-harmonic heterodyne conditioning resonance frequencies?

If they do, then why are they not conditioning energies?

Applicants emphasize the word "prior" in the definition. Thus, all elements of the claimed invention are NOT disclosed in Kawamura.

In response, there is nothing "prior" recited in the method step of claim 1. It is well settled that unpatented claims are given the broadest, most reasonable

interpretation and that limitations are not read into the claims without a proper claim basis therefor. *In re Prater* 415 F. 2d 1393, 162 USPQ 541 (CCPA 1969); *In re Zeltz* 893 F. 2d 319, 13 USPQ 1320.

Response to Amendment

Claim Objections

Claims **2 and 5** are objected to because of the following informalities:

Claim 2

line 2, recites "**a** fuel cell reaction system". What is the relationship between this fuel cell reaction system and the fuel cell reaction system recited in claim 1, line 2? Are they the same?

Claim 5

lines 6-7, "a membrane, electrode assembly" should be amended to -- a membrane/electrode assembly --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims **1-5** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 1

lines 4-5, it appears that the "at least one conditioned participant" is the same as the conditioned participant formed as recited in claim 1, line 2. However, it is unclear if it is. If it is not, then what is the relationship between the at least one conditioned participant and the conditioned participant as recited in claim 1, line 2?

Claim 5

line 8, recites "or regenerative fuel cell and a solid oxide fuel cell". The alternative expression of the Markush group is improper (MPEP § 2173.05(h)).

Double Patenting

I. Claims **5 and 6** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-26** of copending Application No. **10/203,797** (Brooks et al.) as applied to claims 1-4 above

Brooks is as applied in the Office Action dated June 15, 2006 and incorporated herein.

II. Claims **5 and 6** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-6** of copending Application No. **10/507,659** (Brooks et al.) as applied to claims 1-4 above

Brooks is as applied in the Office Action dated June 15, 2006 and incorporated herein.

III. Claims **5 and 6** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-6** of copending Application No. **10/507,660** (Brooks et al.) as applied to claims 1-4 above

Brooks is as applied in the Office Action dated June 15, 2006 and incorporated herein.

IV. Claims **5 and 6** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-6** of copending Application No. **10/508,462** (Brooks et al.) as applied to claims 1-4 above

Brooks is as applied in the Office Action dated June 15, 2006 and incorporated herein.

Claim Rejections - 35 USC § 102

Claims **5 and 6** are rejected under 35 U.S.C. 102(e) as being anticipated by **Kawamura et al.** (US Patent No. 6,706,431 B2) as applied to claims 1-4 above.

Kawamura is as applied above and incorporated herein.

Kawamura also teaches wherein said fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct

methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, or regenerative fuel cell and a solid oxide fuel cell (= a sandwich-type electrolyte fuel cell, having a first electrode, a second electrode, a second electrode formed from a nano-carbon material and an ion exchange membrane positioned between the first electrode and the second electrode) [col. 2, lines 53-57; and col. 3, lines 41-43].

The fuel cell reaction system comprises a polymer electrolyte membrane fuel cell (= PEM) [col. 2, lines 53-57; and col. 3, lines 41-43].

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. Claim 22 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Brooks et al.** (US Patent No. 6,033,531).

Brooks teaches a method for conditioning at least one conditionable participant (= platinum powder) in a fuel cell reaction system ($\text{H}_2 + \text{O}_2 \rightarrow \text{platinum catalyst} \rightarrow \text{H}_2\text{O}$) comprising:

applying at least one conditioning frequency (= spectral catalyst platinum emissions from two parallel Fisher Scientific Hollow Cathode Platinum Lamps) to at least one conditionable participant (= the traditional physical platinum catalyst) to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant (= irradiated physical platinum catalyst), whereby said at least one conditioning frequency (= spectral catalyst platinum emissions from two parallel Fisher Scientific Hollow Cathode Platinum Lamps) comprises at least one frequency selected from the group consisting of direct resonance conditioning frequencies, harmonic resonance conditioning frequencies, non-harmonic heterodyne conditioning resonance frequencies, electronic conditioning frequencies, vibrational conditioning frequencies, rotational conditioning frequencies, rotational-vibrational conditioning frequencies, fine splitting conditioning frequencies, hyperfine splitting conditioning frequencies, electric field splitting conditioning frequencies, magnetic field splitting conditioning frequencies, cyclotron resonance conditioning frequencies, orbital conditioning frequencies and

nuclear conditioning frequencies (= *inherent*) [col. 11, Example 1; and col. 13, Example 5].

II. Claims **22 and 23** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Kawamura et al.** (US Patent No. 6,706,431 B2).

Kawamura teaches a method for conditioning at least one conditionable participant (= a catalyst) in a fuel cell reaction system (= a hydrogen and oxygen fuel cell electrode system) [col. 5, lines 49-57] comprising:

applying at least one conditioning frequency (= a blue color diode light and/or a conducting electric current) to at least one conditionable participant (= a catalyst) to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant (= an increased catalytic function) [col. 5, lines 39-43], whereby said at least one conditioning frequency (= a blue color diode light and/or a conducting electric current) comprises at least one frequency selected from the group consisting of direct resonance conditioning frequencies, harmonic resonance conditioning frequencies, non-harmonic heterodyne conditioning resonance frequencies, electronic conditioning frequencies, vibrational conditioning frequencies, rotational conditioning frequencies, rotational-vibrational conditioning frequencies, fine splitting conditioning frequencies, hyperfine splitting conditioning frequencies, electric field splitting conditioning frequencies, magnetic field splitting conditioning frequencies, cyclotron

resonance conditioning frequencies, orbital conditioning frequencies and nuclear conditioning frequencies (*inherent*).

The fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, or regenerative fuel cell and a solid oxide fuel cell (= a sandwich-type electrolyte fuel cell, having a first electrode, a second electrode, a second electrode formed from a nano-carbon material and an ion exchange membrane positioned between the first electrode and the second electrode) [col. 2, lines 53-57; and col. 3, lines 41-43].

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

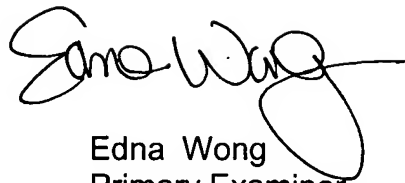
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Edna Wong", with a large, stylized loop at the end of the last name.

Edna Wong
Primary Examiner
Art Unit 1753

EW
February 2, 2007